DOCUMENT RESUME

ED 171 395 **PS 010 602**

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TITLE Development of Sex Differences in Response to an Infant and to the Caretaker Role.
PUB DATE Mar 79
NOTE 9p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (San Francisco, California, March 15-18, 1979)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Age Differences; Behavior Patterns; Females; *Infants; Males; *Preschool Children; Research; Response Mode; *Sex Differences; *Sex Role; *Social Relations; Spontaneous Behavior

ABSTRACT

This followup study examines the differences between preschool girls and boys in their responses to infants. Thirty-eight day care children (boys and girls age 3 1/2 to 5 1/2 years were observed during individual play in a small play area with a male or female toddler mature enough to interact with the preschoolers socially. The children's behavior was observed in two situations: first during 6 minutes of spontaneous play, and then for 3 minutes after being asked to "take care of the baby for a few minutes so we can work." Since boys were expected (on the basis of previous data) to become less responsive to babies at approximately age 4-1/2, subjects were divided into age groups above and below age 4-1/2. There were nine older boys and nine older girls (age 4-1/2 to 5-1/2 years) and 10 younger boys and 10 younger girls (age 3-1/2 to 4-1/2). It was hypothesized that: (1) sex differences would be dependent on age, and would be present only in the older group; (2) older girls would interact with babies more than younger girls, and older boys would interact less than the younger boys; and (3) the caretaking assignment would further increase differences between sex and age groups. Results show that, in the main, the hypotheses were verified. (Author/MP)

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ED171395

PS 010602

Development of Sex Differences in Response to an Infant and to the Caretaker Role

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(paper presented at the meetings of the Society for Research for Child Development, 3/79 San Francisco)

There are two major viewpoints concerning the development of sex differences in responsiveness to babies and young children. One view is that sex differences spring from biological sources. Lorenz (1943) for example, believes that the response to infants is innate. He states that one-year-old girls, who have not yet had an opportunity to learn the response, exhibit behaviors to objects such as dolls which are remarkably similar to adult women's responses to babies. The other viewpoint is that infant-oriented responses are part of a complex of sex-role behaviors which are learned in response to social expectations, demands, and reinforcements. If this is the case then we should expect an increasing divergence between girls and boys in their responses to infants during the preschool years when other sex-typed behaviors develop.

Unfortunately, there is little research with very young children which might help trace the origins of these sex differences. An earlier study we had conducted had suggested that boys may actually decrease in responsiveness to babies rather abruptly between age 4 and 5. Girls, on the other hand, might be expected to increase their responsiveness to babies during the same age period. In the present experiment 38 day care children between

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3½ and 5½ years old, were observed during individual play in a small space with a male or female toddler who was mature enough to approach and interact with the preschoolers socially, but not mature enough to be considered a peer, even by the youngest subjects. The preschool subjects were mainly white, middle class, with working mothers, and only about 10% had younger siblings.

On the basis of our previous data, boys were expected to decrease in responsiveness to babies at approximately age 4½. Therefore, subjects were divided into age groups above and below 4½ years. There were 9 older boys and 9 older girls 4½ to 5½ years old, and 10 younger boys and 10 younger girls 3½ to 4½ years old. The preschool subjects and toddlers were familiar with each other since they attended the same center and shared a large playground, but they were housed separately and had no regular interactions. Observations took place in an unused room at the center which was familiar to all the children. The small play area, which was littered with toys, was partitioned off with bookcase dividers approximately 3 feet tall.

The toddler was brought in before each session, and after he or she was playing comfortably, the older child was escourted to the play area. All children were observed first during 6 minutes of spontaneous play, and then for 3 minutes following an assignment to the caretaker role. That is, children were first told that they could "play with the toys or the baby or

do whatever (they) would like to do" while the observers (who were outside the partitioned play area) "work(ed) over here." The observers listened to a low volume tape which signaled the beginning and end of time intervals, and recorded observations on prepared forms. After 6 minutes subjects were told, "We're really having a hard time doing our work, and we'd like you to take care of the baby for a few minutes so we can work. You take care of the baby for us now"

It was predicted that sex differences would be dependent on age and would be present only in the older group. Older girls would interact with the baby more than younger girls, and older boys would interact less than the younger boys. Because assignment to the caretaker's role is an explicit social cue which should have significance to the child in terms of its congruence, with previously acquired sex-role expectations and understandings, the caretaking assignment was expected to operate to further increase differences between sex and age groups.

The following interactions were recorded for 10-second intervals by observers who had been trained to, and had maintained, at least 90% reliability:

1 - Solitary play with toys or objects

2 - Toy interaction: offering, giving, accepting, exchanging toys, mutual play with, or touching the same toys

3 - Physical touch

4 - Verbal or vocal interactions

5 - Verbalization or vocalization to self

6 - Any sort of response to the observers

The nature of the observed behaviors, and the initiator of the interactions was noted.

The most frequent activity in which the children engaged was solitary play (82%) of all intervals. In contrast, interactions with the baby were only about one fifth as frequent. Children played with, touched, or vocalized to the baby during 17% of all intervals. The most frequent interactions involved use of a toy (9% of the time), physical contact (6%) and verbalization or vocalizations (5%). There were few vocalizations to self (3%), or responses to observers (1% of the time). Because individual children interacted in different modes, the scores used for most analyses were number of intervals during which any type of interaction took place.

Figure 1 presents these data for the four age-sex groups in successive three minute periods. Spontaneous play is divided into two three-minute periods so that changes in the amount of interaction before the caretaking assignment might be compared with changes immediately following the assignment. Compared with their initial levels of interaction, all groups responded at similar, or higher levels, in the second three minutes except for the older boys. Similarly all groups except the older boys responded to the caretaking assignment with even higher levels of interaction with the baby. After relatively high initial

levels of interaction with the baby, older boys decreased these interactions precipitously, and showed no increase at all in response to the caretaking assignment. In fact, only four older boys out of the group of nine interacted with the baby at all during the second three minutes, and only one interacted after the caretaking assignment. In order to deal with the resulting heterogeneity and nonnormality, the data were analyzed in several steps.

When all six minutes of spontaneous interaction were considered, group differences did not reach a significant level. However when scores were computed representing the change in amount of spontaneous interaction between the first and second 3-minute periods, age and sex interacted significantly. This was due mainly to the older boys' drop in baby-interactions during spontaneous play, compared with the other groups.

A second change score was then computed for each subject, representing the change from the second to the third three-minute period that is, from before to after caretaking assignment. The two change scores (first to second, and second to third three-minute period) were entered together in a 2 x 2 x 2 (Age x Sex x Change) Analysis of Variance. The change after the caretaking assignment was significantly greater overall than the change during spontaneous play. Younger children increased their interactions over the entire course of the experiment significantly more than older children. Sex was

not significant but there was a highly significant interaction between age and sex.

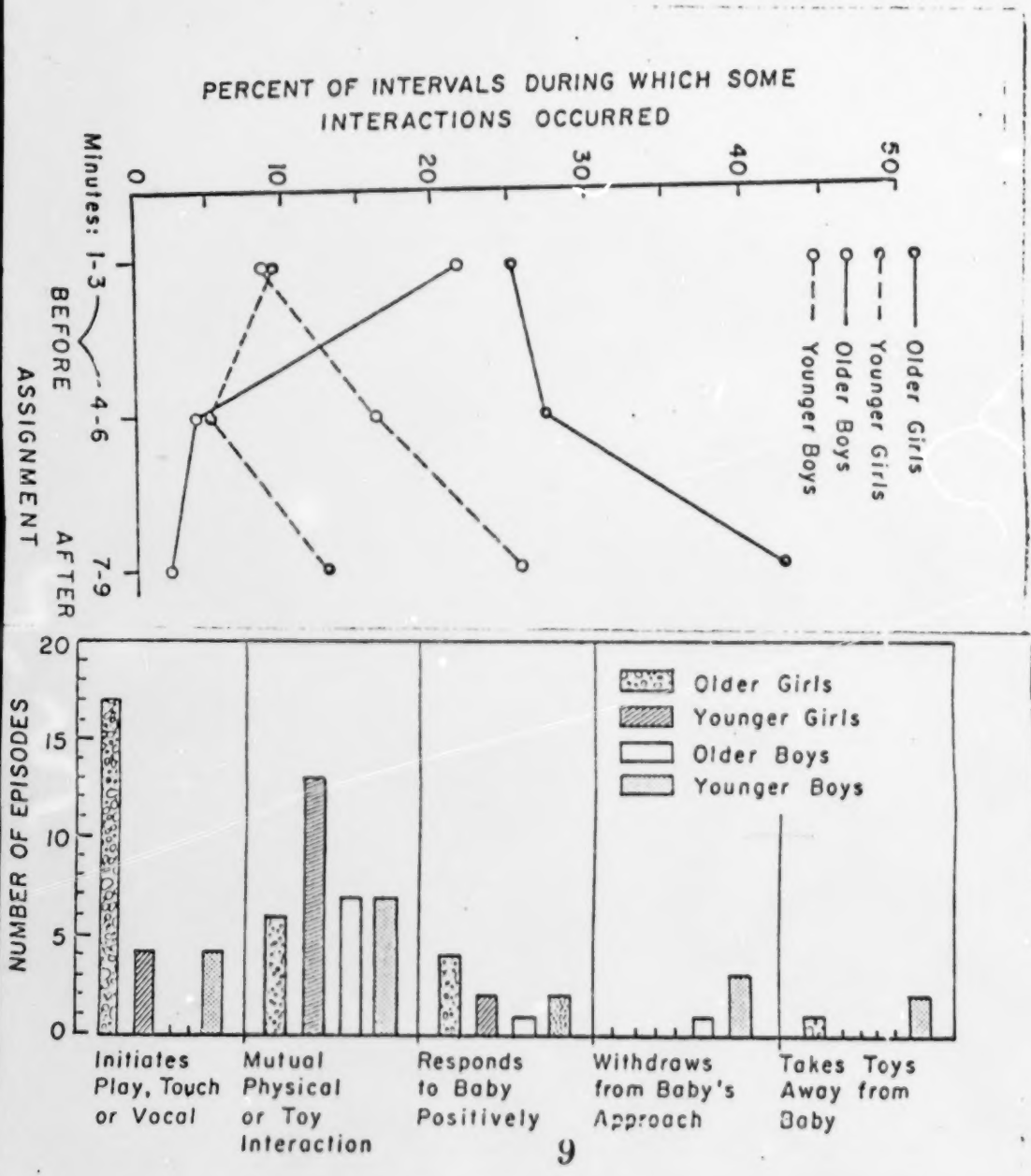
After the caretaking assignment, there were large significant differences between all groups in amount of baby-interaction. All comparisons which could be made with parametric tests were significant. That is, older girls, younger boys, and younger girls were each significantly different from all other groups in amount of interaction with the baby. Because only one of the nine older boys interacted with the baby after the caretaking assignment, Chi Square was used to compare the frequency of interactors and noninteractors in the older boys' group with that of each of the other groups. All the Chi Squares were significant.

To sum up then, we did find that, in the main, our hypotheses were verified. Age and sex interacted, so that the greatest sex difference existed between the older children. Assignment to a caretaking role elicited behaviors which were even more sex-typed than those during spontaneous play: Older girls interacted significantly more with the baby than younger girls, but older boys interacted significantly less than younger boys.

Significant differences in the quality of interactions were also found. Qualitatively distinguishable behaviors were analyzed in terms of number of episodes. Episodes were defined as uninterrupted series of intervals during which a particular activity took place. That is, a brief kiss, and a longer activity, such as rolling a ball back and forth, each counted as one episode.

These were tallied over all 9 minutes of study for all groups and are presented in Figure 2. Since episodes most often involved physical touch or interaction with a toy, with the older child either initiating positive interactions, or engaging in mutually initiated interactions with the baby, the frequency of these two types of behaviors were compared for the four groups. Older girls were the only group of children who initiated interactions more often than they engaged in mutually-initiated interactions. Many of the older girls' behaviors, therefore, appeared adult-like and nurturant in nature.

However, an important qualification is in order. Although these interactions <u>appeared</u> nurturant they were unlike the nurturant behaviors of older individuals in that they did not appear to be keyed to what baby was doing or to the baby's obvious needs, but, instead, often had the quality of a maternal-role playing behavior of the type one might find in children's play ("I'll be the mother and you be the baby"). This type of behavior however, may serve as an initial step towards what might later become fuller, more mature behavior in response to babies.


PERCENT OF INTERVALS DURING WHICH SOME INTERACTIONS OCCURRED
0
10
20
30
40
50
Minutes: 1-3
4-6
7-9
BEFORE
AFTER
ASSIGNMENT
Older Girls
Younger Girls
Older Boys
Younger Boys
NUMBER OF EPISODES
20
15
10
5
0
Older Girls
Younger Girls
Older Boys
Younger Boys
Initiates Play, Touch or Vocal
Mutual Physical or Toy Interaction
Responds to Baby Positively
Withdraws from Baby's Approach
Takes Toys Away from Baby